CLAIMS

What is claimed is:

1. A system, comprising:

communication means;

a set of modules each capable of communication via the communication means and each having a synchronized clock and means for performing a function of the system such that the functions are coordinated by a synchronized time in the synchronized clocks.

2. The system of claim 1, wherein the communication means and the modules are contained in an instrument bay.

3. The system of claim 2, wherein the instrument bay includes means for providing power to the modules.

4. The system of claim 1, wherein the means for performing a function in one or more of the modules comprises means for applying a stimulus in response to the synchronized time.

5. The system of claim 1, wherein the means for performing a function in one or more of the modules comprises means for obtaining a measurement and for generating a time-stamp for the measurement using the synchronized time.

6. The system of claim 1, wherein the means for performing a function in one or more of the modules comprises means for obtaining a measurement at a given time using the synchronized time.

7. The system of claim 1, wherein the communication means is preselected to enable placement of the modules at localized and widely dispersed positions without substantial modification to software in the modules or the use of the modules by application software.

8. The system of claim 1, further comprising a set of power lines for providing power to one or more of the modules.

9. The system of claim 8, wherein the power lines are included in a cable that also includes a set of communication lines for the modules.

10. The system of claim 1, wherein the communication means includes a communication network.

11. The system of claim 1, wherein one or more of the modules are connected to separate sub-nets of the communication network.

12. The system of claim 1, wherein one or more of the modules includes means for obtaining a message via the communication means that includes an identification of a measurement and a time at which the measurement is to be obtained.

13. The system of claim 1, wherein one or more of the modules includes means for obtaining a message via the communication means that includes an identification of a stimulus and a time at which the stimulus is to be applied.

14. The system of claim 1, wherein one or more of the modules includes means for obtaining a message via the communication means that includes an identification of a measurement and a time interval during which a series of the measurements are to be obtained.

15. The system of claim 1, wherein one or more of the modules includes means for obtaining a message via the communication means that includes an identification of a stimulus and a time interval during which the stimulus is to be applied.

16. The system of claim 1, wherein one or more of the modules includes means for transferring a message via the communication means that includes a measurement and a time at which the measurement was obtained.